PROCEEDINGS

OF THE

ROYAL SOCIETY OF LONDON

Series B

CONTAINING PAPERS OF A BIOLOGICAL CHARACTER

VOL. XCIII.

LONDON:

PRINTED FOR THE ROYAL SOCIETY AND SOLD BY
HARRISON AND SONS, LTD., ST. MARTIN'S LANE,
PRINTERS IN ORDINARY TO HIS MAJESTY.

July, 1922.

LONDON:

HARRISON AND SONS, LTD., PRINTERS IN ORDINARY TO HIS MAJESTY, ST. MARTIN'S LANE.

CONTENTS.

SERIES B. VOL. XCIII.

	No. B 649.—January 2, 1922.
PAGE 1	Address of the President, Prof. C. S. Sherrington, at the Anniversary Meeting, November 30, 1921
15	On the Optical Rotatory Power of Crystalline Ovalbumin and Serum Albumin. By Elrid Gordon Young, Ramsay Memorial Fellow. Communicated by Prof. F. G. Hopkins, F.R.S.
36	Experiments on Amphibian Metamorphosis and Pigment Responses in Relation to Internal Secretions. By Julian S. Huxley (New College, Oxford), and Lancelot T. Hogben (Imperial College of Science, London). Communicated by Prof. E. W. MacBride, F.R.S.
	Studies in Bacterial Variability.—On the Occurrence and Development of Dysagglutinable, Eu-agglutinable and Hyper-agglutinable Forms of Certain Bacteria. (A Report to the Medical Research Council.) By E. W. Ainley Walker. Communicated by Prof. Georges Dreyer, F.R.S.
	No. B 650.—February 1, 1922.
69	The Titration Curve of Gelatine.—Report to the Medical Research Council. By D. J. Lloyd, Biochemical Laboratory, Cambridge, and C. Mayes, Physical Laboratory, Eton College. Communicated by Prof. F. G. Hopkins, F.R.S
86	The Hæmolytic Action of Sodium Glycocholate. By Eric Ponder. Communicated by Sir E. Sharpey Schäfer, F.R.S.
104	The Mechanism of Ciliary Movement. By J. Gray, M.A., Fellow of King's College, Cambridge, and Balfour Student, Cambridge University. Communicated by Prof. J. S. Gardiner, F.R.S.
122	The Mechanism of Ciliary Movement. II.—The Effect of Ions on the Cell Membrane. By J. Gray, M.A., Fellow of King's College, Cambridge, and Balfour Student in the University of Cambridge. Communicated by Prof. J. S. Gardiner, F.R.S.
s. 44 24	a 2

		PAGE
	the Hypertrophy of the Interstitial Cells in the Testicle of the Guinea-Pig under Different Experimental Conditions. By Alexander Lipschütz, M.D., Professor of Physiology (in collaboration with Benno Ottow, M.D., Charles Wagner, Sc.D., and Felix Bormann). Communicated by F. H. A. Marshall, F.R.S. (Plates 1 and 2)	132
	the Irritability of the Fronds of Asplenium bulbiferum, with Special Reference to Graviperception. By T. L. Prankerd, B.Sc., F.L.S. Lecturer in Botany, University College, Reading. Communicated by Prof. W. M. Bayliss, F.R.S. (Plate 3)	143
	No. B 651.—March 1, 1922.	
	Dia-Heliotropic Attitude of Leaves as determined by Transmitted Nervous Excitation. By Sir Jagadis Chunder Bose, F.R.S., Director, Bose Institute, Calcutta. Assisted by Satyendra Chandra Guha, M.Sc., Research Student, Bose Institute, Calcutta	153
	Ultra-Violet Absorption Spectra and the Optical Rotation of the Proteins of Blood Sera. By S. Judd Lewis, D.Sc. (Tübingen), B.Sc. (London), F.I.C. Communicated by Prof. J. N. Collie, F.R.S.	178
	Colouring Matter of Red Roses. By Geoffrey Currey. Communicated by Prof. F. Keeble, F.R.S.	194
	Kata-thermometer as a Measure of Ventilation. By Leonard Hill, F.R.S., H. M. Vernon and D. Hargood-Ash	198
	he Heating and Cooling of the Body by Local Application of Heat and Cold. By Leonard Hill, M.B., F.R.S., D. Hargood-Ash, B.Sc., and J. Argyll Campbell, M.D.	207
	the Oxidation Processes of the Echinoderm Egg during Fertilisation. By C. Shearer, F.R.S.	213
	Depressor Nerve of the Rabbit. By B. B. Sarkar. Communicated by Sir E. Sharpey Schäfer, F.R.S. (Plate 4)	230
	Coagulation of Protein by Sunlight. By Elrid Gordon Young, Ramsay Memorial Fellow. Communicated by Prof. F. G. Hopkins, F.R.S	23 5
- 1		
	No. B 652.—April 1, 1922.	. *
1	the Development and Morphology of the Leaves of Palms. By Agnes Arber, D.Sc., F.L.S., Keddey Fletcher-Warr Student of the University of London. Communicated by Prof. F. W. Oliver, F.R.S.	249
\$	ies in the Fat Metabolism of the Timothy Grass Bacillus. By Marjory Stephenson, Beit Memorial Research Fellow, and Margaret Dampier Whetham. Communicated by Prof. F. G. Hopkins, F.R.S.	262

V	
Recoil Curves as Shown by the Hot-Wire Microphone. By Lieut. Colonel C. B. Heald, C.B.E., M.D., and Major W. S. Tucker, R.E., D.Sc. Communicated by Prof. C. S. Sherrington, Pres. R.S. (Plates 5-8)	PAG 28
The Velocity of the Pulse Wave in Man. By J. Crighton Bramwell, M.B., M.R.C.P., and A. V. Hill, F.R.S.	29
No. B 653.—May 1, 1922.	
On a Remarkable Bacteriolytic Element found in Tissues and Secretions. By Alexander Fleming, M.B., F.R.C.S. Communicated by Sir Almroth Wright, F.R.S. (Plate 9)	30
The Pigmentary Effector System. I.—Reaction of Frog's Melanophores to Pituitary Extracts. By Lancelot T. Hogben, M.A., D.Sc., and Frank R. Winton, M.A. Communicated by Prof. E. W. MacBride, LL.D., F.R.S	31
Relationships between Antiseptic Action and Chemical Constitution with special reference to Compounds of the Pyridine, Quinoline, Acridine and Phenazine Series. By C. H. Browning, J. B. Cohen, F.R.S., R. Gaunt, and R. Gulbransen	32
The Action of "Peptone" on Blood and Immunity thereto. By J. W. Pickering, D.Sc., and J. A. Hewitt, Ph.D., B.Sc. Communicated by Prof. W. D. Halliburton, F.R.S.	36
No. B 654.—June 1, 1922.	
Active Hyperæmia. By D. T. Harris (Beit Memorial Research Fellow). Communicated by Prof. W. M. Bayliss, F.R.S.	3 8-
The Acidity of Muscle during Maintained Contraction. By H. E. Roaf. Communicated by Sir C. S. Sherrington, Pres. R.S.	40
On the Heat Production and Oxidation Processes of the Echinoderm Egg during Fertilisation and Early Development. By C. Shearer, F.R.S.	41
Further Observations on Cell-wall Structure as seen in Cotton Hairs. By W. Lawrence Balls, M.A., Sc.D. (Cantab.), and H. A. Hancock. Communicated by Dr. F. F. Blackman, F.R.S. (Plate 10)	42
Observations on the Distribution of Fat-Soluble Vitamines in Marine Animals and Plants. By Johan Hjort, D.Sc., For.Mem.R.S.	44
No. B 655.—July 1, 1922.	
On Blood-Platelets: their Behaviour in "Vitamin A." Deficiency and after "Radiation," and their Relation to Bacterial Infections. By W. Cramer, A. H. Drew, and J. C. Mottram. Communicated by Prof. W. Bulloch, F.R.S.	44
Development of the Calcareous Parts of the Lantern of Aristotle in <i>Echinus miliaris</i> . By D. W. Devanesen, M.A. Communicated by Prof. E. W.	
MacBride, F.R.S. (Plates 11-15)	46

	s of Liver and Spicen. By John Addym	nan Gardner and Francis	
	Fox (Beit Memorial Fellow). Communicate		
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		48
	The state of the s		
	ORTHUARY NOTICES OF FELLOWS	S DECEASED	
	OBITUARY NOTICES OF FELLOWS		
	Ducie (with portrait)	i	
		i	
Adrian I	Ducie (with portrait)	i	
Adrian I Louis Co	Ducie (with portrait) Brown mpton Miall	i iii x	
Adrian I Louis Co George S	Ducie (with portrait)	iiiix	